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When discovered, its brightness was estimated to be about 11th magnitude. Theoretically, its maximum brightness was reached about January 1, 1899, and it is now slowly decreasing. By April 1st it will have decreased to about half that at discovery.

From my observations of November 23, December 7, and December 16, 1898, I have computed the following elements for this comet. The first two observations were secured with the 12-inch telescope and the third with the 36-inch refractor:—

Elements.

$$\begin{array}{l} T = 1898 \text{ Sept. } 20.15344 \\ \omega = 4^{\circ} \ 37' \ 59''.9 \\ \Omega = 95 \ 51 \ 35.9 \\ i = 22 \ 30 \ 20.3 \end{array} \left. \vphantom{\begin{array}{l} T \\ \omega \\ \Omega \\ i \end{array}} \right\} 1899.0$$

$$\log q = 0.358892$$

A comparison of the ephemeris computed from these elements with observations which I have recently secured with the 36-inch refractor gives the following residuals:—

O—C.

$$\begin{array}{l} \text{Jan. } 4, \quad \Delta \alpha = + 0''.19, \Delta \delta = + 2''.2 \\ \quad \quad \quad 5, \quad \Delta \alpha = + 0.17, \Delta \delta = + 1.5 \end{array}$$

Soon after the first elements of this comet were published, Professor WEISS, of Vienna, pointed out their similarity to those of Comet 1867 I, and suggested the possibility of an identity. But the residuals given above for dates twenty and twenty-one days after the date of the last observation which was used in computing these elements, show that they are nearly correct, and that the true elements are essentially parabolic. There is, therefore, no probability of the present comet being a return of Comet 1867 I.

MT. HAMILTON, January 16, 1899.

E. F. CODDINGTON.

THE SECOND WASHINGTON STAR CATALOGUE.

This catalogue, which embodies 72,914 observations of stars made with the 8.5-inch transit-circle at the old Naval Observatory between the dates January 3, 1866, and June 30, 1891, was published in November, 1898, as "Appendix I," of the Washington Observations for 1892. It contains the places for 1875.0 of 5151 stars, 185 of which are stars of the American Ephemeris, and the others miscellaneous, ranging in Declination from the North

Pole to 45° south, and in magnitude from naked-eye stars to stars of the 12th magnitude. The number of observations for a star varies from 1 for some in the miscellaneous list to 855 in Right Ascension, and 2187 in Declination for *Polaris*.

The title-page rightfully bears the name of Professor JOHN R. EASTMAN, as 17,334 of the observations were made by him personally, and 39,867 others under his immediate direction; while the reduction, the discussion of the results, and the arrangement of the volume were carried out according to his plans. R. G. A.

THREE NEW SPECTROSCOPIC BINARY STARS.

While engaged in determining the velocities of stars in the line of sight with the Mills spectrograph, we have found three stars whose velocities are variable. The variation in each case is due to the fact that the star is describing an orbit of comparatively short period.

η Pegasi. ($\alpha = 22^h 38^m$, $\delta = + 29^\circ 42'$.)

My first measures of the velocity of this star from three spectrum plates gave $+ 7.1$, $+ 5.1$, and $- 2.2$ kilometers per second, respectively. Inasmuch as an extreme range of four kilometers for a star of constant velocity is never expected, I felt sure that the velocity of *η Pegasi* varied. Additional plates were secured and another earlier plate was reduced. All confirm the variation. The velocities obtained up to date are as follows:—

1896.	Aug. 27.	$+ 7^{km}.1$
	Sept. 23.	$+ 5 .1$
1897.	July 8.	$- 6 .4$
	Sept. 28.	$- 2 .2$
1898.	Aug. 29.	$+ 16 .5$
	Aug. 30.	$+ 15 .6$
	Sept. 4.	$+ 16 .5$
	Sept. 15.	$+ 15 .7$
	Oct. 18.	$+ 11 .0$
	Oct. 24.	$+ 11 .5$
	Oct. 26.	$+ 10 .8$
	Nov. 28.	$+ 6 .1$
1899.	Jan. 23.	$- 1 .6$

By plotting these data, it will be seen that the period of the star must be about two and a quarter years. Several years must elapse before a definitive determination of the orbit can be made.